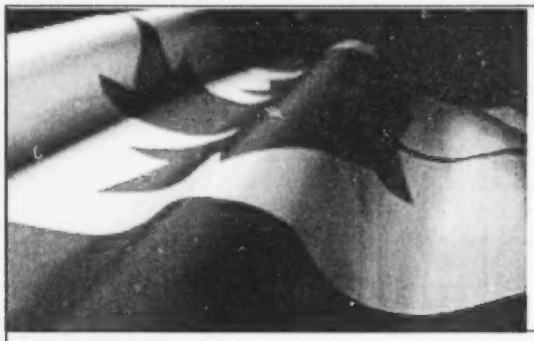


Department of Finance
Ministère des Finances

Working Paper
Document de travail

Federal Taxes and Transfers Across Canada: Impact on Families

by

Marie-Anne Deussing*

Working Paper 2003-21

* The author would like to thank Chris Matier, Finn Poschmann, Mélanie Raymond, Michel Poitevin, Émile Allie and Isabelle Amano for their very helpful discussions and comments.

Working Papers *are circulated in the language of preparation only, to make analytical work undertaken by the staff of the Department of Finance available to a wider readership. The paper reflects the views of the authors and no responsibility for them should be attributed to the Department of Finance. Comments on the working papers are invited and may be sent to the author(s).*

Les **Documents de travail** *sont distribués uniquement dans la langue dans laquelle ils ont été rédigés, afin de rendre le travail d'analyse entrepris par le personnel du Ministère des Finances accessible à un lectorat plus vaste. Les opinions qui sont exprimées sont celles des auteurs et n'engagent pas le Ministère des Finances. Nous vous invitons à commenter les documents de travail et à faire parvenir vos commentaires aux auteurs.*

104-03305/

FEDERAL TAXES AND TRANSFERS ACROSS CANADA:
Impact on Families

Marie-Anne Deussing

Fiscal Policy Division
Economic and Fiscal Policy Branch
Finance Canada
October 2003

The views expressed in this paper are those of the authors and do not reflect those of the Department of Finance. The author would like to thank Chris Matier, Finn Poschmann, Mélanie Raymond, Michel Poitevin, Émile Allie and Isabelle Amano for their very helpful discussions and comments.

ABSTRACT

This paper provides a second look at the provincial distribution of federal net transfers (i.e., direct and indirect transfers received minus taxes paid) across family income groups and provinces, an issue that was previously addressed by Poschmann (1998). This paper uses the same database, mainly Statistics Canada's Social Policy Simulation Database and Model (SPSD/M) and basically the same methodology to analyse the distribution of federal taxes and transfers across (census) families by province and by income group under a different set of assumptions regarding intergovernmental transfers. While our results are generally in accordance with Poschmann (1998), this study does not provide support for his conclusion that the federal government collects taxes from low-income Canadians in high-income provinces in part to fund transfers to higher-income residents of other provinces.

RÉSUMÉ

Cette étude analyse la répartition provinciale des transferts fédéraux nets (transferts directs et indirects reçus moins impôts versés) par catégorie de revenu familial et par province. Cette recherche met à jour et approfondit une étude réalisée par Poschmann en 1998. Elle utilise la même base de données, soit la Base de Données et le Modèle de Simulation de Politique Sociale (BD/MSPS) de Statistique Canada, et une méthodologie semblable pour étudier la répartition de l'impôt fédéral et des transferts distribués par famille (de recensement), par province et par catégorie de revenus. Par contre, les hypothèses utilisées pour le traitement des transferts intergouvernementaux diffèrent de celles utilisées par l'étude précédente. Les résultats de ces deux analyses sont semblables, toutefois, contrairement à Poschmann, cette analyse ne confirme pas la conclusion que le gouvernement fédéral perçoit des impôts parmi les Canadiens à faible revenu résidant dans des provinces à revenu élevé pour financer en partie des transferts aux Canadiens à revenu élevé résidant dans des provinces moins bien nanties.

1. Introduction

In Canada, there is a continual and long-standing debate over the regional impact of federal spending and taxation. In order to shed light on this issue, federal fiscal balances are often used to characterize the provincial distribution of federal revenues and expenditures. What is typically overlooked, however, is the provincial distribution of federal taxes and spending across family income groups. The goal of this paper is to address this issue by analysing the distribution of federal taxes and transfers across provinces and across income groups, while taking into account the role of federal intergovernmental transfers (i.e., indirect transfers). Surprisingly, very few studies have analysed both the provincial differences in federal net transfers (i.e., direct and indirect transfers received minus taxes paid) and their distribution across income groups. The most recent study "Where the Money Goes: The Distribution of Taxes and Benefits in Canada" by Finn Poschmann, dates back to 1998 and analysed the provincial distribution of federal taxes and transfers (including intergovernmental transfers) for 1997 across family income groups. His study concluded that the federal government collects taxes from low-income Canadians in high-income provinces in part to fund transfers to higher-income residents of other provinces.

This paper looks once again at the provincial distribution of federal taxes and transfers across provinces and across family income groups, this time using 2000 data. However, while both studies use Statistics Canada's Social Policy Simulation Database (SPSD/M) to derive distributional estimates for both federal taxes and transfers (direct and indirect), each is unique in its treatment of intergovernmental transfers. More specifically, in Poschmann's study, Equalization is treated as a tax point transfer, which has implications for how Equalization tax points are assumed to be distributed across income groups. This paper treats Equalization as a block transfer, which appears more consistent, as Equalization is a federal cash payment to less prosperous provincial governments. A key result of this paper is that in contrast to Poschmann's study, smaller variations are found in federal net transfers among provinces for high-income groups, reflecting the sensitivity of the results to the treatment of intergovernmental transfers. As such, this study fails to support Poschmann's conclusion that lower-income Canadians in high-income provinces are funding transfers to higher-income residents of low-income provinces.

The structure of this paper is as follows. Section 2 first provides some background and then discusses the methodology and the choice of income concept. Section 3 examines the distributional profile of federal taxes and Section 4 analyses the distributional profile of federal transfers (direct and indirect) across income groups and provinces. Section 5 presents the distribution of net federal transfers on families and Section 6 provides a summary and conclusions.

2. Background and Methodology

2.1 Federal Fiscal Balances

Federal fiscal balances are often used to illustrate the provincial distribution of federal revenues and (current) expenditures. This balance represents the difference between federal expenditures made and federal revenues raised in each province. A province characterized by a positive (negative) balance is one that receives more (less) in federal expenditures than it contributes to federal revenues and is referred to as a "net recipient" ("net contributor").

Table 1 presents federal fiscal balances for the provinces in 2000[1]. As in previous years, Ontario, Alberta and British Columbia were net contributors, with Ontario contributing the most ($26.4 billion) and British Columbia contributing the least ($2.7 billion).

Table 1: ***Federal Fiscal Balance by Province, 2000***

($ millions)	Program Spending	Debt Charges	Revenues	Fiscal Balance
Newfoundland	3,962	787	2,072	**2,677**
P.E.I.	1,171	202	663	**710**
Nova Scotia	7,221	1,378	4,451	**4,148**
New Brunswick	5,019	1,106	3,366	**2,759**
Quebec*	33,742	10,807	41,518	**3,030**
Ontario	40,360	17,117	83,911	**-26,434**
Manitoba	6,736	1,679	5,590	**2,825**
Saskatchewan	5,221	1,497	4,774	**1,944**
Alberta	9,345	4,407	20,942	**-7,190**
British Columbia	14,003	5,945	22,680	**-2,732**
Canada	129,108	45,070	190,893	**-16,716**

Note: *These figures include an upward adjustment to both federal expenditures and revenues for the Quebec (CHST) Abatement.

Source: Statistics Canada, *Provincial Economic Accounts, 2001 Annual Estimates*, cat. 13-213-PPB, November 2002.

Per capita fiscal balances (Table 2) ranged from $5,145 in Prince Edward Island to –$2,389 in Alberta. Quebec's per capita fiscal balance stood at $411, the smallest of all net recipient provinces.

[1] The federal fiscal balances are measured using the Provincial Economic Accounts annual estimates. In the Provincial Economic Accounts, provincial distribution of federal revenues is based on residence of the person or establishment making the payment, while federal expenditures are allocated according to where consumption of resources occurs. Furthermore, debt charges are allocated across provinces by population to better reflect the consumption of resources funded by the accumulated public debt. These data should in no way be interpreted as the benefit or cost of Confederation, since the data cannot capture the true economic impact of the federal government.

Table 2: ***Per Capita Federal Fiscal Balance by Province, 2000***

($ per capita)	Program Spending	Debt Charges	Revenues	Fiscal Balance
Newfoundland	7,378	1,466	3,858	4,985
P.E.I.	8,486	1,464	4,804	5,145
Nova Scotia	7,674	1,464	4,730	4,408
New Brunswick	6,648	1,465	4,458	3,654
Quebec*	4,573	1,465	5,627	411
Ontario	3,454	1,465	7,181	-2,262
Manitoba	5,878	1,465	4,878	2,465
Saskatchewan	5,109	1,465	4,671	1,902
Alberta	3,106	1,465	6,960	-2,389
British Columbia	3,450	1,465	5,588	-673
Canada	4,196	1,465	6,204	-543

Note: *These figures include an upward adjustment to both federal expenditures and revenues for the Quebec Abatement.

While federal fiscal balances provide a useful measure of the distribution of federal taxes and transfers across provinces, they convey very little information as to how federal taxes and revenues are distributed across family income groups within each province. As such, this paper attempts to provide a thorough analysis of the federal fiscal flows between household income groups within and across provinces in 2000.

2.2 The database

In this analysis, SPSD/M, release 9.0, is used to compute the distribution of federal taxes and transfers across provinces and (census) family income groups for 2000. The SPSD/M is a static microsimulation model that combines individual administrative data from 1997 T1 personal income tax returns and employment insurance claimant histories with 1997 survey[2] data on family incomes and on expenditure patterns. As such, it estimates taxes and transfers at the individual and household level and aggregates the results to arrive at provincial and national estimates.

2.3 The Income Concept

The income concept used for this distributional analysis is based on post-tax, post-transfer income, which is defined in SPSD/M as the sum of market income (income from employment, self-employment, investment and other private sources) and transfer income to persons (cash transfers from federal and provincial governments) less all taxes (personal income tax, indirect taxes, benefit repayments and employment insurance premiums)[3]. Although other income concepts exist[4], a post-tax, post-transfer income

[2] The survey includes the Survey of Consumer Finance (SCF), the Survey of Household Spending (SHS) and the Survey of Income and Labour Dynamics (SLID).

[3] Following Poschmann (1998), some adjustments are made to the SPSD/M post-tax, post-transfer income concept. First, the employer share of EI premiums is attributed directly to households and is therefore included as taxes. As well, both CPP/QPP contributions and the resultant pensions are removed to better accord with the National Accounts definitions. The income concept also includes intergovernmental transfers, although the benefits that arise from direct government spending on goods and services are not included.

[4] For a more detailed description of existing income bases, Vermaeten, F, Gillepsie W. I., and Vermaeten A., "Tax Incidence in Canada", *Canadian Tax Journal*, vol. 42, no. 2, 1994, pp. 353-354.

concept is considered to be the most appropriate for two reasons. First, it is reasonable to assume that families consider transfers to be part of their income given that they have full discretionary control over how they will spend the money they receive through them. Second, it is a comprehensive measure of income, and as such, the incidence rates that use this income base provide a clearer picture of how the government "takes" on the tax side, after it has "given" on the spending side[5].

However, although federal taxes and transfers are expressed relative to the post-tax, post-transfer income concept, it is important to note that family total income (market income and direct transfers) is the measure used to differentiate the income groups in the distributional tables presented in the sections below. This treatment follows Poschmann (1998) and allows the reader to readily recognize his or her own status *vis-à-vis* provincial and national averages.

3. Federal Taxation

This analysis begins by looking at the distribution of the federal tax burden across income groups and provinces. Following the previous study, the analysis generally assumes that the tax burden is borne by those paying the tax. Furthermore, keeping with the focus on the individual, the incidence of the corporate income tax is not estimated here.

Federal taxes included in this analysis can be classified into two categories. The first category, federal direct taxes, accounts for 57 per cent of federal revenues and includes federal income tax on personal and unincorporated business income as well as employee/employer Employment Insurance (EI) contributions. The second category, federal indirect taxes, makes up about 20 per cent of federal revenues and includes custom import duties, excise duties, excise taxes, other energy taxes, and the Goods and Services Tax (GST). Corporate income taxes and federal own investment income make up the remaining share of federal revenue, but these are not included in the analysis.

3.1 Personal Income Tax

SPSD/M draws on Revenue Canada's sample of T1 personal income tax returns and as such, models the personal income tax in considerable detail. Furthermore, to account for the Quebec (CHST) Abatement, which reflects 13.5 percentage points of Basic Federal Tax for Alternative Payments for Standing Programs, an upward adjustment is applied to the personal income tax collected in Quebec.

Table 3 shows the distribution of the federal personal income tax (PIT) burden across income groups and provinces. As a proportion of (post-tax, post-transfer) income, federal PIT rises quite steadily moving from lower to higher (total) income groups. Indeed, on average, for families in the lowest income group, PIT amounts to 2.7 per cent of their post-tax, post-transfer income, while for families in the highest income group, these taxes amount to 27.2 per cent on average.

---

[5] *Ibid*, pp. 354.

Table 3: *Personal Income Taxes as a Percentage of Post-Tax, Post-Transfer Income, 2000*

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	1.3	6.1	8.2	11.9	14.1	15.9	18.8	25.3	11.9
PE	2.3	7.1	8.0	11.3	13.6	13.9	17.9	23.4	12.3
NS	2.2	6.5	11.1	14.0	15.7	15.9	18.3	24.1	13.7
NB	2.0	6.4	10.1	12.6	14.4	16.6	18.2	27.7	14.0
QC	2.4	7.5	10.7	13.5	15.6	17.9	19.8	27.9	15.8
ON	2.8	7.5	10.4	14.2	15.7	17.4	19.5	27.6	18.7
MN	2.5	7.6	10.6	13.1	14.6	16.4	17.6	24.1	15.1
SK	2.5	7.3	10.7	13.3	15.6	16.9	18.4	28.5	16.0
AB	3.3	8.4	11.1	14.5	16.7	18.0	19.3	26.2	18.6
BC	3.1	8.1	10.4	14.3	16.3	17.7	19.4	26.9	17.3
ALL	2.7	7.5	10.5	13.9	15.8	17.5	19.4	27.2	17.3

Across provinces, there is very little variation in PIT rates for given income groups. Indeed, for families in the $20,000 to $30,000 income group, PIT rates range from 6.1 per cent for Newfoundland to 8.4 per cent for Alberta. This can be attributed in part to the fact that families in given income groups are subject to the same federal income tax rates, regardless of where they reside. However, variations in family characteristics and in other components of taxes and transfers can affect the PIT income shares.

Overall, given the progressive nature of PIT, residents of Ontario and Alberta, which both have higher-than-average per capita income, pay proportionately more federal income taxes. In fact, the average personal income tax rate of 18.7 per cent in Ontario is about 7 percentage points higher than that estimated for Newfoundland.

3.2 Employment Insurance Contributions

SPSD/M models employee EI contributions by drawing on an administrative database of employment insurance claim histories. However, since SPSD/M does not account for the employer portion of EI contributions, this analysis also attributes the employer share of EI contributions directly to the employees based on the assumption that the employer contribution to payroll taxes is ultimately borne by employees.

In 2000, the employee contribution rate was $2.40 for every $100 of insurable earnings, and the employer contribution rate was 1.4 times the employee rate or $3.36 per $100 of insurable earnings. Furthermore, the maximum annual EI contribution was $936 for an employee and $1,310 for an employer.

Table 4 provides the distribution profile of EI contributions. This distribution is progressive over the lower-income range, although it ceases being progressive and becomes regressive over the higher-income range because of the upper limit on EI contributions and because the higher-income households receive a substantial proportion

of their income from self-employment[6] and investment income, which is not considered insurable earnings.

However, in contrast to the provincial average PIT rates, the average EI contribution rates across provinces are very similar, ranging from 3.8 per cent for Newfoundland to 4.4 for Quebec. Given the upper limit on annual EI contributions, one would expect higher-income provinces to have lower average effective EI contribution rates. This (all else equal) would likely be the case if employment rates were uniform across provinces. However, employment rates vary considerably across provinces, and as such, this affects the amount of EI contributions collected. Higher-income provinces have higher employment rates, resulting in a greater number of EI contributors, which helps to attenuate variations across provinces in terms of average EI contributions relative to post-tax, post-transfer incomes.

Table 4: ***EI Contributions as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
NF	0.5	2.4	3.5	4.8	5.2	5.8	5.5	4.5	3.8
PE	1.1	2.8	3.9	4.9	5.5	5.4	4.9	4.8	4.2
NS	0.9	2.8	4.5	5.0	5.4	5.6	5.2	4.0	4.2
NB	0.9	2.7	4.4	5.0	5.4	5.6	5.6	3.6	4.1
QC	0.9	2.9	4.7	5.7	5.6	5.8	5.7	4.0	4.4
ON	1.1	2.7	4.1	5.1	5.2	5.3	5.2	3.4	4.1
MN	1.0	2.7	4.0	5.1	5.2	5.5	5.4	3.9	4.2
SK	1.2	2.8	3.9	5.2	5.1	5.4	5.6	3.0	4.0
AB	2.3	3.6	4.4	5.5	5.5	5.1	5.2	3.2	4.2
BC	1.3	3.3	4.0	5.1	5.1	5.1	5.3	3.3	4.0
ALL	1.1	2.9	4.3	5.3	5.3	5.4	5.3	3.5	4.2

3.3 Indirect Taxes

This study uses the federal commodity tax variable provided by SPSD/M to model the distribution of indirect taxes. This variable includes federal custom import duties, excise duties, excise taxes, other energy taxes, and the federal GST.

Table 5 presents the distributional profile of indirect taxes. In general, a regressive distribution is observed across income groups. Indeed, on average, for families in the lowest income group, indirect taxes amount to 7.7 per cent of their post-tax, post-transfer income, while for families in the highest income group, these taxes amount to 4.7 per cent of their income on average.

When looking at the distribution of indirect taxes across provinces, there are slight variations that exist for given income groups. Indeed, for families with incomes of less than $20,000, indirect taxes amount to 9.1 per cent of post-tax, post-transfer income for families in Alberta, while they equal 5.7 per cent of post-tax, post-transfer income for

[6] This excludes self-employed fisherman, who contribute to the EI program.

those in Newfoundland. Nevertheless, the dispersion of indirect tax rates narrows in the higher-income groups resulting in average rates ranging from 5.5 per cent in Manitoba to 6.9 per cent in Prince Edward Island.

Table 5: ***Indirect Taxes as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
NF	5.7	6.3	5.9	6.1	6.3	5.9	5.3	5.0	5.8
PE	8.0	7.9	7.4	8.1	8.0	5.8	4.9	5.1	6.9
NS	6.7	6.9	6.8	6.3	6.2	6.1	5.7	4.6	6.1
NB	6.5	6.6	7.0	6.4	6.7	5.8	5.6	4.9	6.1
QC	7.3	7.0	6.5	6.4	6.4	6.1	5.6	4.7	6.1
ON	8.1	7.0	6.8	6.4	6.0	5.7	5.5	4.6	5.7
MN	6.3	6.3	6.2	5.9	6.0	5.5	5.2	4.6	5.5
SK	7.3	7.1	6.7	5.9	6.2	5.5	5.4	4.5	5.9
AB	9.1	8.1	7.6	7.2	6.9	6.2	5.9	5.0	6.3
BC	8.4	7.4	6.5	6.5	6.2	5.8	5.6	4.7	6.0
ALL	7.7	7.1	6.7	6.5	6.3	5.8	5.5	4.7	5.9

3.4 Total Federal Taxes

Table 6 shows the distribution of the total federal tax burden across income groups and provinces. For the lowest income group, the average tax rate hovers around 11.5 per cent of post-tax, post-transfer income. With increasing incomes, the influence of the progressive personal income tax takes over, with average federal taxes in the neighbourhood of 35.4 per cent observed in the highest income group.

Table 6: ***Federal Taxes as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
NF	7.4	14.8	17.5	22.8	25.5	27.7	29.6	34.8	21.5
PE	11.4	17.8	19.4	24.3	27.0	25.2	27.7	33.3	23.3
NS	9.8	16.3	22.3	25.3	27.2	27.6	29.1	32.7	23.9
NB	9.5	15.6	21.4	23.9	26.5	28.0	29.4	36.1	24.2
QC	10.6	17.4	21.8	25.6	27.5	29.8	31.1	36.6	26.3
ON	12.0	17.2	21.3	25.7	27.0	28.4	30.1	35.6	28.5
MN	9.7	16.6	20.9	24.1	25.8	27.4	28.2	32.6	24.8
SK	11.0	17.3	21.3	24.3	26.8	27.8	29.4	35.9	25.8
AB	14.6	20.1	23.1	27.2	29.1	29.4	30.4	34.5	29.1
BC	12.8	18.8	20.9	25.9	27.6	28.5	30.3	34.9	27.3
ALL	11.5	17.5	21.5	25.6	27.3	28.7	30.2	35.4	27.4

However, as a share of post-tax, post-transfer income, federal taxes across provinces for given income groups are relatively uniform. Indeed, for families with incomes between $50,000 and $60,000, federal taxes vary slightly from 25.5 per cent for Newfoundland to 29.1 per cent for Alberta.

Overall, the distribution of average federal taxes across provinces follows provincial income patterns. Total federal tax rates range from 27.3 per cent to 29.1 per cent for those provinces with higher-than-average income, while in the remaining provinces, the rate varies between 21.5 per cent and 26.3 per cent of post-tax, post-transfer income. This again primarily reflects the progressivity of the federal tax system.

These results are in line with those obtained by the Poschmann (1998) study. Indeed, Poschmann observed average total federal tax rates that ranged from 10 per cent for lower-income groups to 38.5 per cent for higher-income groups. Furthermore, he observed very little variation across provinces for given income groups, although average federal tax rates across provinces followed provincial income patterns, with British Columbia's average tax rate one-quarter higher than Newfoundland's rate.

4. Federal Transfers

This section examines the distribution of federal transfers across provinces. Federal transfers are classified into two categories. The first, federal *direct* transfers to persons, accounts for 42 per cent of federal program spending and includes elderly benefits, Employment Insurance (EI) benefits, Child Tax Benefit (CTB) transfers and GST credits. The second, federal intergovernmental or *indirect* transfers to persons, makes up 26 per cent of federal program spending and includes Equalization entitlements and the Canada Health and Social Transfer (CHST).

4.1 Federal Direct Transfers

4.1.1 Elderly Benefits

Elderly benefits account for 44 per cent of federal direct transfers and can be divided into three categories. The first, Old Age Security (OAS) is a pension available to all residents of Canada 65 years of age and older who meet the residence requirements. OAS pensions are taxed under the personal income tax, and individuals with an annual income in excess of $57,879 must repay part or the entire maximum OAS pension amount. Furthermore, the full OAS pension is eliminated when a pensioner's net income is $94,148 or above. The full pension, which is provided to those who have lived in Canada for at least 40 years after age 18, was $419.92 per month in January 2000.

The second, Guaranteed Income Supplement (GIS) operates like a negative income tax program. In January 2000, single individuals with no income other than the OAS pension received $499.05 per month, and a married couple each received $325.06 a month. Benefits are reduced by 50 cents for each dollar of income (other than OAS pension) that the individual or couple receives.

The third, the Spouse's Allowance (SPA) is an income-tested benefit that is paid to the spouse of an OAS pensioner, or to a widow or widower. The recipient must be 60 to 64 years of age and have lived in Canada for at least ten years after the age of 18. The

maximum SPA was $839.84 in 2000, and the benefit is reduced by 75 cents for each dollar of non-OAS income received by the recipient or couple.

Table 7 below shows the distribution of OAS/GIS/SPA benefits across income groups and provinces. As a proportion of (post-tax, post-transfer) income, OAS/GIS/SPA benefits decrease substantially moving from lower to higher (total) income groups. On average, for families in the lowest income group, elderly benefits amount to 32.5 per cent of their post-tax, post-transfer income, while for families in the highest income group, these benefits make up 0.2 per cent of their income. This decrease is observed primarily because seniors are found disproportionately in lower-income families and because these benefits are reduced if seniors receive non-OAS income.

Across provinces, for families in the less than $20,000 income group, there is significant variation as reflected in elderly benefit rates that range from 28 per cent for Alberta to 41.4 per cent for Saskatchewan. This variation can be attributed in part to the different demographic profiles of each province, with Alberta characterized by a younger population relative to all other provinces.

Table 7: ***OAS/GIS/SPA as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	32.8	8.6	2.9	2.0	0.7	0.5	0.0	0.0	7.6
PE	37.5	10.8	3.9	3.5	1.0	1.0	0.6	0.1	7.3
NS	31.2	9.4	4.6	3.2	1.6	0.8	0.4	0.1	6.7
NB	32.6	9.6	4.0	3.0	1.2	1.0	0.4	0.1	6.8
QC	34.0	9.4	3.4	1.7	2.3	1.2	0.6	0.2	6.3
ON	32.5	11.9	6.2	3.5	1.9	1.1	0.9	0.3	4.2
MN	32.5	10.1	5.9	3.9	1.5	0.9	0.6	0.1	5.8
SK	41.4	12.4	5.7	2.8	2.3	1.1	0.6	0.5	7.1
AB	28.0	12.0	6.4	2.6	1.1	1.1	0.6	0.2	3.6
BC	30.1	10.5	5.0	2.9	1.9	1.0	0.6	0.2	4.9
ALL	32.5	10.8	5.1	2.8	1.8	1.1	0.7	0.2	5.0

Overall, average elderly benefit rates follow provincial income patterns as these benefits target lower-income seniors. Elderly benefit rates range from 3.6 per cent to 4.9 per cent for higher-income provinces, while in the remaining provinces, the rate varies between 5.8 per cent and 7.6 per cent.

4.1.2 Employment Insurance Benefits

EI benefits make up about 18 per cent of federal direct transfers and are based on an individual's hours worked in a year, earnings and previous regional unemployment rates. In particular, for 2000, the minimum required number of hours for eligibility ranged from 700 hours over the last 52 weeks if the regional unemployment rate was 6.0 per cent or less, to 420 hours if the regional unemployment rate exceeded 13.1 per cent, with longer benefit periods the higher the unemployment rate.

Table 8 shows the distributional profile of EI benefits. The distribution of EI benefits is regressive up to the $30,000 to $40,000 income group, at which point the distribution of EI benefits becomes progressive. On average, families with incomes below $20,000 receive EI benefits equalling 2.0 per cent of their post-tax, post-transfer income, while families with incomes between $30,000 and $40,000 receive benefits amounting to 4.4 per cent of their post-tax, post-transfer income. As a share of post-tax, post-transfer income, EI benefits then decline significantly for families in income groups $40,000 to $50,000 and above.

Moreover, for a given income group, the Atlantic provinces tend to have much higher EI benefit rates compared to other provinces. Looking across provinces, this is reflected in the average rates that range from 3.8 to 9.3 per cent for the Atlantic provinces compared to the average rates in other provinces that range from 1.5 per cent to 3.2 per cent of post-tax, post-transfer income. This can be attributed to the fact that the Atlantic provinces have higher unemployment rates, and as such, 1) more people are collecting benefits, 2) more families are eligible to receive EI benefits since it is easier to qualify, and 3) the benefit periods are longer.

Table 8: ***Employment Insurance Benefits as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	3.4	14.0	16.9	14.5	12.1	8.3	5.3	2.6	9.3
PE	5.5	11.3	14.1	10.0	10.3	5.2	2.6	1.7	7.4
NS	2.5	5.3	6.3	5.2	4.4	3.5	3.4	1.3	3.8
NB	3.4	9.9	9.5	8.4	6.7	3.7	3.6	0.7	5.2
QC	2.3	6.3	5.6	4.8	3.7	3.4	2.1	0.9	3.2
ON	1.4	2.1	2.5	2.2	2.0	1.5	1.1	0.5	1.3
MN	1.6	3.0	3.0	3.2	2.1	1.7	1.5	0.8	1.8
SK	1.4	3.0	3.4	2.2	2.4	1.3	1.6	0.7	1.8
AB	2.0	4.0	3.8	2.7	1.4	1.0	1.6	0.5	1.5
BC	2.2	4.3	4.7	3.0	2.4	2.8	1.9	0.8	2.3
ALL	2.0	4.3	4.4	3.6	2.8	2.2	1.7	0.6	2.2

4.1.3 Net Employment Insurance Program Analysis

Given that almost everyone who has employment income must make EI contributions, it may be of interest to look at the overall net program impact[7]. Table 9 sets out the results.

For 2000, contributions exceed benefits paid, and therefore, on a net basis, the average rate is negative: an average of -2.0 per cent of post-tax, post-transfer family income. Furthermore, on a net basis, the EI program is generally progressive, with the exception of families with incomes of less than $20,000 and more than $100,000.

[7] The net EI program is defined as EI benefits less EI employee and employer contributions.

Table 9: *EI Benefits less Contributions as a Percentage of Post-Tax, Post-Transfer Income, 2000*

	Census Family Total Income								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
NF	2.9	11.6	13.4	9.7	7.0	2.5	-0.2	-1.9	5.5
PE	4.5	8.5	10.2	5.1	4.9	-0.2	-2.3	-3.1	3.2
NS	1.5	2.4	1.8	0.2	-1.0	-2.2	-1.8	-2.6	-0.4
NB	2.5	7.2	5.1	3.4	1.3	-1.9	-2.0	-2.9	1.1
QC	1.4	3.4	0.9	-0.9	-1.9	-2.4	-3.7	-3.1	-1.2
ON	0.3	-0.6	-1.6	-3.0	-3.2	-3.8	-4.0	-2.9	-2.8
MN	0.6	0.3	-1.0	-1.9	-3.1	-3.8	-3.9	-3.1	-2.3
SK	0.2	0.2	-0.5	-3.0	-2.7	-4.1	-4.1	-2.3	-2.2
AB	-0.2	0.5	-0.6	-2.8	-4.1	-4.1	-3.6	-2.7	-2.7
BC	0.9	1.0	0.7	-2.1	-2.7	-2.3	-3.4	-2.6	-1.7
ALL	0.9	1.4	0.2	-1.7	-2.5	-3.2	-3.7	-2.9	-2.0

However, and more importantly, some considerable discrepancies exist across provinces for given income groups. Indeed, families in Alberta with incomes less than $20,000 are net contributors to the program, while families in Newfoundland with incomes between $60,000 and $75,000 are net recipients, receiving more from the EI program than they are paying into it. Furthermore, families in Ontario are net contributors to the EI program at all income groups except for those with incomes less than $20,000 while families in Newfoundland are net recipients at all income groups except for those with incomes above $75,000. Again, these discrepancies can be attributed to the difference in unemployment rates across provinces since these influence not only the number of hours of insurable employment required to be eligible to receive EI benefits, they also influence the length of the benefit period. For example, in Ontario where the unemployment rate is between 7 and 8 per cent, it would take 630 to 664 hours of insurable employment to qualify for 17 weeks of benefits. In contrast, in a high unemployment region in Newfoundland, where the unemployment rate is over 16 per cent, it would take 420 hours of insurable employment to qualify for 32 weeks of benefits.

4.1.4 The Canada Child Tax Benefit

Canada Child Tax Benefit (CCTB) transfers are responsible for about 12 per cent of federal direct transfers and can be broken up into two main elements. The first element is a basic benefit available to 80 per cent of families with children. The annual basic benefit in 2000 was $1,104 per child under age 18 for the first and second child in a family, and $1,181 for the third and each additional child. The basic benefit was taxed back (on combined net income of parents over $30,004) at 5 per cent where there were two or more children and 2.5 per cent if there was only one child.

The second element of the CCTB is the National Child Benefit Supplement (NCBS), which targets low-income families, and as such, for 2000, the maximum was paid only if family net income was less than $21,214. When family net income exceeds the NCBS threshold, the benefit is reduced by a percentage amount that depends on the number of

children in a family. On average, the annual NCBS in 2000 was $977 per child under age 18 for the first child in a family, $771 for the second child and $694 for the third.

Table 10 sets out the distribution of CCTB transfers across provinces and income groups. There is an increase of 1.6 percent in average CCTB transfer rates as we move from families with incomes less than $20,000 to families with incomes between $20,000 and $30,000, mainly because young single mothers are found disproportionately in the less than $20,000 income groups while two parent families tend to have incomes of more than $20,000. This would tend to distort the CCTB transfer rates for the lowest income group. However, the distribution of CCTB is progressive for income groups of $20,000 and above, with families with income between $20,000 and $30,000 receiving 3.7 per cent of their post-tax, post-transfer income in the form of CCTB transfers while families in the higher income groups receive 0.4 per cent or less.

Table 10: ***Canada Child Tax Benefits as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	2.5	4.5	3.7	2.1	1.7	1.0	0.4	0.1	2.0
PE	1.0	3.7	4.9	3.0	2.3	1.3	0.5	0.1	2.0
NS	1.9	4.0	2.8	2.0	1.8	1.3	0.4	0.0	1.6
NB	2.5	3.8	3.7	2.0	1.7	0.8	0.4	0.0	1.7
QC	1.6	3.6	3.3	2.3	1.8	1.2	0.5	0.0	1.5
ON	2.0	3.9	3.3	2.1	1.7	1.0	0.4	0.1	1.1
MN	2.1	3.2	3.6	2.5	1.9	1.2	0.5	0.1	1.5
SK	2.3	4.3	4.2	3.2	2.2	1.3	0.4	0.1	1.9
AB	2.2	2.9	2.8	2.2	1.7	1.2	0.6	0.1	1.1
BC	2.9	3.8	3.0	1.8	1.8	1.1	0.4	0.0	1.4
ALL	2.1	3.7	3.3	2.2	1.8	1.1	0.4	0.0	1.3

Across provinces, there is very little variation in CCTB rates as reflected in the average rates that range from 1.1 per cent for Alberta to 2.0 per cent for Newfoundland and Prince Edward Island. This is as expected since uniform CCTB transfer rates are applied across provinces for each income group and families belonging to a given income group are subject to the same claw back rules, regardless of where they live.

4.1.5 Refundable GST Credit

The GST credit is a tax-free quarterly payment that helps individuals and families with low and modest incomes offset all or part of the GST and as such, it helps to compensate for the regressive nature of the GST. In 2000, the GST quarterly credit was $205 for each eligible adult and $107 per child under the age of 19, and the credit was phased out for households with income above a threshold level of $32,524 if the household was comprised of a single person and $38,764 if it was comprised of a married/common law couple with two children.

Table 11 sets out the distribution profile for the refundable GST credit. Since the GST credit targets lower-income families, it is not surprising that the transfer rates are highest for those families in the less than $20,000 income group and lowest for those with incomes above $100,000[8].

There is also very little variation in GST credit rates across provinces for given income groups as reflected in average effective rates ranging from 0.5 per cent for Alberta to 1.0 per cent for Newfoundland.

Table 11: ***GST Credit as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
NF	2.5	1.9	1.2	0.5	0.3	0.2	0.2	0.2	1.0
PE	2.5	1.8	1.2	0.6	0.3	0.3	0.1	0.2	0.9
NS	2.6	1.7	0.8	0.4	0.2	0.2	0.2	0.1	0.8
NB	2.6	1.7	1.0	0.4	0.2	0.2	0.2	0.1	0.8
QC	2.8	1.8	1.0	0.5	0.3	0.2	0.2	0.1	0.8
ON	3.1	1.8	1.0	0.4	0.2	0.2	0.2	0.1	0.5
MN	2.5	1.6	0.9	0.4	0.2	0.2	0.2	0.1	0.6
SK	3.0	1.9	1.1	0.4	0.2	0.2	0.1	0.1	0.8
AB	3.1	1.7	0.9	0.3	0.2	0.1	0.1	0.1	0.5
BC	3.3	1.8	0.9	0.4	0.2	0.1	0.1	0.1	0.7
ALL	2.9	1.8	1.0	0.4	0.2	0.2	0.2	0.1	0.6

4.1.5.1 Indirect Taxes Net of the GST credit

Given that the refundable GST credit is meant to offset the regressive nature of the GST, it may be of interest to look at the distribution of indirect taxes net of the GST credit. Table 12 sets out the results.

As a proportion of post-tax, post-transfer income, indirect taxes net of the GST credit increase as we move from the lower than $20,000 income group to the $40,000 to $50,000 income group, suggesting that the refundable GST credit is in fact successful in eliminating the regressivity of the GST. However, with the GST credit substantially reduced for families with higher incomes, the regressivity of indirect taxes is still present among higher income groups, with rates ranging from 6.0 percent for families with

[8]Although one would expect the GST credits to be phased out for those (census) families earning $40,000 and above, we still observe GST credits amounting to anywhere between 0.1 per cent and 0.6 per cent of post-tax, post-transfer income for families earning between $40,000 and more than $100,000. This can be attributed to the use of the census family as our unit of analysis. A census family is defined as a now-married couple, a common-law couple or a lone-parent with a child or youth who is under the age of 25 and who does not have his or her own spouse or child living in the household. As such, a child or youth who is 24, earning $20,000 or less, but living with his/her parents who earn together $40,000 or more could receive a GST credit. Consequently, this family would record the GST credit as a proportion of their post-tax, post-transfer income.

incomes between $50,000 and $60,000 to 4.6 per cent for those with incomes above $100,000.

Table 12: ***Indirect Taxes net of GST credits, as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	3.2	4.4	4.6	5.7	6.0	5.8	5.1	4.8	4.8
PE	5.5	6.1	6.2	7.5	7.6	5.5	4.7	4.9	6.0
NS	4.1	5.2	5.9	5.9	5.9	5.9	5.4	4.5	5.3
NB	3.9	4.8	5.9	5.9	6.5	5.5	5.4	4.7	5.3
QC	4.5	5.2	5.4	5.9	6.0	5.9	5.4	4.6	5.3
ON	5.0	5.2	5.9	6.0	5.8	5.5	5.3	4.5	5.2
MN	3.7	4.7	5.3	5.5	5.8	5.3	4.9	4.4	4.9
SK	4.2	5.2	5.6	5.4	5.9	5.4	5.2	4.4	5.1
AB	5.9	6.4	6.7	6.9	6.7	6.1	5.7	4.9	5.8
BC	5.2	5.6	5.6	6.1	6.0	5.6	5.5	4.6	5.3
ALL	4.8	5.3	5.7	6.0	6.0	5.7	5.4	4.6	5.3

When looking at the distribution of indirect taxes net of the GST credit across provinces, it can again be said that the GST credit reduces the regressivity of the GST. Indeed, without the GST credit, the distribution of indirect taxes across provinces yields slight variations for given income groups (see Paragraph 3.3). With the GST credit, the dispersion of indirect tax rates narrows somewhat. For example, for families with incomes of less than $20,000, prior to the inclusion of the GST credit, rates range from 9.1 per cent for Alberta to 5.7 per cent for Newfoundland. With the GST credit, rates now range from 5.9 per cent for Alberta to 3.2 per cent for Newfoundland, reflecting a 0.7 per cent decrease in variability.

4.1.6 Total Federal Direct Transfers to Persons

Table 13 provides the distributional profile of federal direct transfers. This distribution is progressive in the sense that the contribution relative to income is more important for lower-income groups. Indeed, direct transfers amount to 39.6 per cent of post-tax, post-transfer income for those in the lowest income group while higher-income groups receive transfers totalling 1 per cent of their post-tax, post-transfer income.

There is a considerable drop of almost 50 per cent in average direct transfer rates as we move from families with incomes less than $20,000 to families with incomes between $20,000 and $30,000. This is mainly because a high proportion of the elderly, who receive the bulk of federal direct transfers through OAS/GIS/SPA, fall into the less than $20,000 income group. Indeed, families with incomes less than $20,000 receive elderly benefits (OAS/GIS/SPA) equalling 32.5 per cent of their post-tax, post-transfer income, while those with incomes between $20,000 and $30,000 receive benefits amounting to 10.8 per cent (67 per cent less) of their post-tax, post-transfer income. (See Table 7.)

Table 13: *Federal Direct Transfers as a Percentage of Post-Tax, Post-Transfer Income, 2000*

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	41.2	29.0	24.7	19.0	14.8	10.0	5.9	2.9	19.9
PE	46.5	27.6	24.0	17.0	13.9	7.9	3.8	2.1	17.6
NS	38.2	20.4	14.5	10.8	7.9	5.7	4.4	1.6	12.9
NB	41.2	25.0	18.3	13.9	9.8	5.7	4.7	0.9	14.5
QC	40.8	21.1	13.3	9.3	8.1	6.0	3.4	1.3	11.8
ON	38.9	19.7	12.9	8.1	5.8	3.8	2.6	0.9	7.2
MN	38.8	17.8	13.4	9.9	5.8	4.0	2.8	1.1	9.7
SK	48.2	21.6	14.3	8.6	7.0	3.8	2.7	1.3	11.5
AB	35.3	20.7	13.9	7.7	4.4	3.4	2.8	0.9	6.7
BC	38.4	20.4	13.7	8.1	6.2	5.1	3.0	1.1	9.2
ALL	39.6	20.6	13.8	9.0	6.7	4.6	3.0	1.0	9.1

Furthermore, with the exception of the lower income groups, there is significant variation in federal direct transfer rates across provinces for a given income group. This variation is reflected in the average transfer rates that range from 6.7 per cent for Alberta to 19.9 per cent for Newfoundland, mainly because of the influence of the EI program. Indeed, families residing in Ontario with (total) incomes between $30,000 and $40,000 receive EI benefits which amount to 2.5 per cent of their (post-tax, post-transfer) income while families in Newfoundland in the same income group receive proportionately more (16.9 per cent). (See Table 8.)

Overall, federal direct transfers follow provincial income patterns, with higher-income provinces experiencing rates between 6.7 per cent and 9.2 per cent while lower-income provinces observed rates between 9.7 per cent and 19.9 per cent.

Poschmann observed broadly similar results with average federal direct transfer rates ranging from 36.9 per cent for families in the less than $20,000 income group to 1.5 per cent for those in the highest income group. Furthermore, across provinces, Poschmann observed substantial variations, due mainly to the effect of the differing prevalence of low-income families, with average transfer rates ranging from 9.3 per cent for Alberta to 26.8 per cent for Newfoundland.

4.2 Indirect Transfers

In updating the Poschmann (1998) study, we also treat social services that are provided by provincial governments and funded by federal intergovernmental transfers as in-kind transfers; however, a different approach is taken in allocating these transfers to families. In the previous study, CHST cash transfers were allocated to health, post-secondary education and social services according to each province's historical share of CAP and EPF. In fiscal year 1995-96, prior to the consolidation of EPF and CAP, 43.1 per cent of the combined value of EPF and CAP cash transfers was allocated to health, while 14.5

per cent and 42.4 per cent was allocated to post-secondary education and social services, respectively.

This study takes a different approach in allocating CHST cash transfers. First, although CHST was intended to cover only certain provincial expenditures related to health, education, and social services, this study allocates CHST cash to all areas related to these services. Given that the CHST is a block transfer, it is reasonable to assume that provincial governments have considerable flexibility to allocate federal CHST cash transfers according to their spending needs. Moreover, in recent analyses of federal support for health care, federal and provincial governments adopt essentially the same approach[9].

Table 14 below shows provincial spending related to health, education and social services across provinces as a share of provincial social program spending. Overall, health care spending commands a greater share of provincial social spending (52 per cent) while the smallest share (16 per cent) of provincial social spending is allocated to social services.

Table 14: ***Share of Provincial Program Spending Related to Health, Education and Social Services by Province, 2000***

		Share of Social Spending		
($ millions)	CHST	Health	Education	Social Services
NF	300	47%	31%	22%
PEI	75	49%	37%	15%
NS	513	52%	31%	17%
NB	408	54%	35%	11%
QC	4163	52%	33%	15%
ON	5105	56%	26%	19%
MN	619	53%	30%	16%
SK	534	55%	29%	15%
AB	1380	47%	39%	14%
BC	2356	48%	35%	17%
CA	15453	52%	31%	16%

Source: Department of Finance, *Fiscal Policy Division*

Furthermore, this paper also takes a different approach in the allocation of Equalization entitlements. Contrary to Poschmann, who viewed Equalization as a tax point transfer, this study treats Equalization as another block transfer. Moreover, given that Equalization cash transfers have never been tied to any particular provincial expenditure, they are allocated to health, education and social services according to each program's share of total provincial program spending.

Table 15 describes provincial spending related to health, education and social services as a percentage of total program spending. Again, the bulk of provincial program spending is allocated to health, while the smallest share of total program spending is used to fund social services.

[9] *Federal Support for Health Care: The Facts.* Department of Finance, July 2002. The report can be accessed at http://www.fin.gc.ca/acces/fedprove.html.

Table 15: ***Provincial Expenditures on Health, Education and Social Services As a Percentage of Total Program Spending, 2000***

($ millions)	Equalization Entitlements[10]	Share of Program Spending			
		Health	Education	Social Services	Other Program Spending
NF	1138	34%	22%	16%	28%
PEI	273	30%	22%	9%	38%
NS	1413	42%	25%	13%	19%
NB	1255	40%	25%	8%	27%
QC	5293	38%	24%	11%	27%
MN	1291	41%	23%	13%	23%
SK	198	39%	21%	11%	28%
CA	10861	39%	24%	11%	26%

Source: Department of Finance, *Fiscal Policy Division*

4.2.1 Federal Transfers for Health

In the previous study, Poschmann allocated 43 per cent of the CHST cash transfer to health for all provinces. This 43 per cent was the previous share of the combined value of EPF and Canada Assistance Plan that was set aside for health. It was then distributed across income groups according to the number of hospital patient-days "consumed" by individuals by age, by sex and by province. The reasoning behind this allocation was that the number of hospital patient-days, by age and by sex represented the risk of an individual requiring health services, and as such, the dollar value of this risk was the portion covered by the federal cash transfer.

This study takes a more current approach and uses aggregate provincial spending patterns to allocate CHST cash and Equalization entitlements. As Table 14 shows, the share of CHST allocated to health ranges from 47 per cent of social spending for Alberta to 56 per cent for Ontario, while the share of the Equalization entitlement allocated to health (see Table 15) ranges from 30 per cent of total program spending for Prince Edward Island to 42 per cent for Nova Scotia.

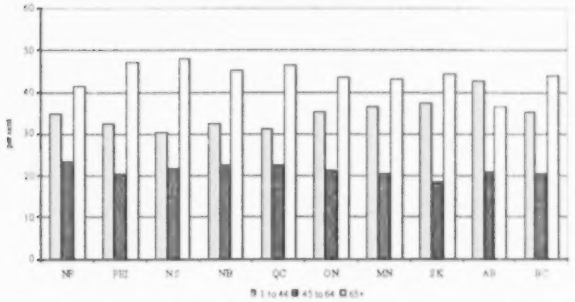
For each province, the cash amounts of CHST and Equa lization related to health care are then assigned to individuals based on their age and sex, using detailed estimates of public sector health expenditures from the Canadian Institute of Health Information (CIHI).

Figure 1 provides a look at public health expenditures for each province across three age categories: 1 to 44, 45 to 64, and 65 and above[11]. Interestingly, the share of provincial spending that is assigned to each age category varies across provinces. This can be attributed to 1) the unique demographic profile of each province and 2) the different spending choices made by each provincial government in the area of health care.

[10] Includes CHST Associated Equalization.

[11] Eight CIHI age groups, however, are used to allocate health spending to individuals.

Figure 1
Provincial Health Spending by Age as a Proportion of Total Provincial Health Spending, 2000



Source: Canadian Institute of Health Information, *National Health Expenditure Database, National Health Expenditure Trends 1975-2002.*

Figure 1 shows that all provinces, with the exception of Alberta, devote the largest share of their health spending to those aged 65 and above, with the spending shares ranging from 36 per cent to 43 per cent. Alberta spends the largest share (43 per cent) of its total provincial health care budget on individuals younger than 45 years of age and compared to all other provinces, it spends the least (36 per cent) on those 65 and above This largely follows from the fact that relative to all other provinces, the population in Alberta is, on average, younger. Nova Scotia, on the other hand, spends the most (48 per cent) on its older generation relative to all other provinces, and the least (30 per cent) on those younger than 45 years of age, mainly because of the provincial government's health care spending choices.

Table 16 provides the distributional profile of health benefits derived from CHST cash transfers and Equalization entitlements by income and by province.

Table 16: ***CHST and Equalization Entitlements allocated to Health as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	20.8	10.3	6.4	5.2	4.6	4.1	3.1	2.4	7.9
PE	19.2	9.8	5.9	5.0	4.4	3.4	2.8	2.3	6.6
NS	19.5	9.1	6.4	5.5	4.2	3.9	3.1	2.0	6.8
NB	20.2	9.6	6.8	5.8	4.6	3.8	3.2	1.9	7.0
QC	12.9	6.0	3.7	3.0	3.0	2.4	2.0	1.3	4.1
ON	6.3	3.0	2.0	1.5	1.2	1.0	0.9	0.5	1.4
MN	17.2	7.6	6.1	4.8	3.4	3.0	2.6	1.7	5.1
SK	9.8	4.4	3.0	2.0	1.9	1.5	1.3	0.8	2.8
AB	5.4	2.9	1.9	1.4	1.1	0.9	0.8	0.5	1.3
BC	7.0	3.0	2.1	1.5	1.3	1.1	0.9	0.6	1.8
ALL	10.3	4.6	3.0	2.4	2.0	1.6	1.3	0.7	2.6

Across income levels, the distribution is progressive in the sense that benefits from the federal indirect health transfer relative to income are larger for lower-income groups. Indeed, the average health benefits derived from federal transfers ranges from 10.3 per cent for lower-income families to 0.7 per cent for higher-income families. However, there is a considerable drop (over 50 per cent) in average health benefit rates as we move from families with incomes less than $20,000 to families with incomes between $20,000 and $30,000. This is mainly because seniors are the most intensive consumers of health care services and are found disproportionately in families with incomes below $20,000.

Across provinces, considerable variation exists for given income groups, in part because Ontario, Alberta and British Columbia did not receive Equalization entitlements in 2000. However, considerable variation exists even among the provinces receiving Equalization transfers. For example, families in Saskatchewan with incomes less than $20,000 receive health care benefits amounting to 9.8 per cent of their post-tax, post-transfer income while families in Newfoundland belonging to the same income group receive 20.8 per cent. However, this variation is somewhat reduced in the higher-income groups. Overall, Ontario, Alberta and British Columbia have average effective benefit rates of 1.4 per cent, 1.3 per cent and 1.8 per cent, respectively, while in the remaining provinces, the range varies between 2.8 per cent and 7.9 per cent.

4.2.2 Federal Transfers for Education

In a similar way, Poschmann allocated 14.5 per cent (the historical share of EPF and CAP) of each province's CHST to post-secondary education. The post-secondary education benefit was then allocated to students based on whether they were part-time or full-time enrolees. Each part-time student was given one-third the benefit of a full-time student. Subsequently, multiplying the number of students in each category by the share of CHST related to post-secondary education yielded the total notional post-secondary cash transfer.

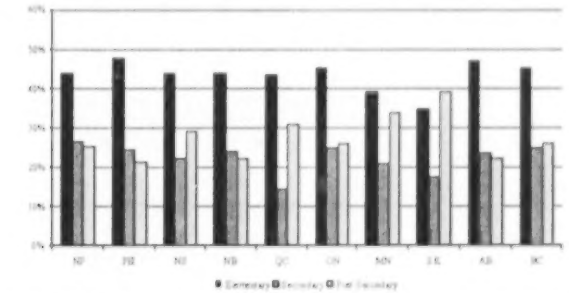
In this study, however, given that CHST and Equalization are treated as block transfers, it is assumed that their share related to education funds education at all levels, including elementary and secondary levels. As such, the amount of CHST and Equalization transfers allocated to elementary, secondary and post-secondary levels is determined using the Financial Management System (FMS) publication. However, the FMS only classifies provincial education spending into two categories: 1) combined elementary and secondary education and 2) post-secondary education. Therefore, to determine the separate shares of provincial spending attributed to elementary and secondary education, enrolment rates are used since it is assumed that spending on elementary and secondary education is done on an equal per capita basis.

Figure 2 shows each province's spending pattern across different education levels. All provinces, except for Saskatchewan, spend a greater share of their education budget on elementary education, with Prince Edward Island spending the greatest share (48 per cent) relative to all other provinces. This can be attributed to the fact that more students attend elementary schools, given that these incorporate eight years of schooling as

opposed to four provided by secondary and post-secondary institutions. On the other hand, relative to all other provinces, Saskatchewan spends the least (35 per cent) out of its education budget on elementary education, while it spends the most on post-secondary education. Given that Saskatchewan has the highest share of elementary students relative to all other provinces, a relatively lower spending share for elementary education reflects in part Saskatchewan's provincial government's budgeting decisions.

Moreover, the share of total spending on education that is allocated to the secondary level varies from 14 per cent for Quebec to 27 per cent for Newfoundland, with spending on secondary education exceeding spending on post-secondary education for Newfoundland, Prince Edward Island, New Brunswick and Alberta. This again in part reflects provincial government spending decisions.

Figure 2
Provincial Education Spending by Educational Level as a Proportion of Total Provincial Spending on Education, 2000



Source: Statistics Canada, *Public Sector Statistics, Financial Management System 2001-2002*, cat. 68-213-XIE, June 2002.

Once the cash amounts of CHST and Equalization related to elementary, secondary and post-secondary education are established, they are assigned to individuals according to their age, highest level of education completed, and education status (i.e., full-time or part-time). In particular, following Poschmann's methodology, each part-time student receives one-third the education benefit of a full-time student.

Table 17 provides the distributional profile of education benefits across income groups and provinces. The distribution appears to be mainly proportional, although it becomes somewhat regressive through the highest income groups.

Across provinces receiving Equalization entitlements, there are relatively small variations within given income groups. For example, families in Quebec with incomes less than $20,000 have education benefits amounting to 1.8 per cent of their post-tax, post-transfer income while families in Newfoundland belonging to the same income group receive 5 per cent. Overall, average benefit rates range from 0.6 per cent to 1.3 per cent for Ontario, Alberta and British Columbia (non-Equalization receiving provinces), while the remaining provinces experience rates varying between 1.4 per cent and 5 per cent.

Table 17: *CHST and Equalization Entitlements allocated to Education as a Percentage of Post-Tax, Post-Transfer Income, 2000*

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	5.0	4.6	7.3	4.6	4.6	4.1	4.9	4.8	5.0
PE	3.2	4.0	6.3	5.6	4.9	7.3	3.6	2.5	4.7
NS	2.5	4.9	3.8	3.6	3.9	4.2	5.3	2.9	3.9
NB	4.0	4.0	5.5	4.1	4.2	3.9	5.0	2.2	4.1
QC	1.8	2.8	2.9	2.4	2.8	2.3	2.3	1.6	2.3
ON	0.8	0.8	0.9	0.8	0.8	0.7	0.7	0.4	0.6
MN	2.8	3.2	2.8	2.8	2.9	2.4	3.2	2.4	2.8
SK	2.1	1.5	1.2	1.2	1.5	1.2	1.2	1.2	1.4
AB	1.2	1.0	1.1	1.0	1.6	1.2	1.2	0.6	1.0
BC	2.0	1.6	1.4	1.4	1.5	1.3	1.1	0.8	1.3
ALL	1.7	1.9	1.9	1.7	1.8	1.5	1.5	0.8	1.4

4.2.3 Federal Transfers for Social Services

Although this study allocates the block transfers to social services according to provincial spending patterns rather than based on the federal portion of CAP money embodied in the CHST, it uses Poschmann's methodology to assign this amount across families. This study allocates the amount of CHST and Equalization attributed to social services according to the distribution of social assistance payments across income groups. This information is found in the SPSD/M database as it incorporates data from the Survey of Consumer Finances, and as such, records family welfare income.

As observed in Table 14, the share of CHST cash transfers allocated to social services ranges from 11 per cent for New Brunswick to 22 per cent for Newfoundland while the share of Equalization entitlements ranges from 8 per cent for New Brunswick to 16 per cent for Newfoundland. (See Table 15.)

Table 18 shows the distribution of social service benefits derived from CHST cash transfers and Equalization entitlements. Across income levels, the distribution of benefits related to social services is progressive, which is as expected given that social assistance payments target lower-income families. However, there appears to be some considerable variation across provinces for given income groups. For example, families in Newfoundland with incomes of less than $20,000 receive social service benefits amounting to 13.4 per cent of their post-tax, post-transfer income, while families in Saskatchewan and Ontario belonging to the same income group receive 3.3 per cent. Overall, average social service benefit rates follow provincial income patterns, ranging from 3.8 per cent for Newfoundland to 0.4 per cent for Alberta. This follows largely from the fact that provinces with above average income do not receive Equalization payments and they also have a lower incidence of lower-income families.

Table 18: ***CHST and Equalization Entitlements allocated to Social Services as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	13.4	6.6	3.6	1.0	0.3	0.0	0.1	0.0	3.8
PE	8.8	3.5	2.6	0.4	0.5	0.0	0.4	0.0	2.0
NS	9.2	4.6	2.1	0.5	0.2	0.2	0.2	0.0	2.2
NB	7.0	2.4	1.1	0.2	0.2	0.0	0.0	0.0	1.4
QC	5.8	2.5	1.2	0.2	0.2	0.1	0.0	0.0	1.2
ON	3.3	1.8	0.9	0.3	0.2	0.1	0.0	0.0	0.5
MN	7.6	4.7	1.5	1.0	0.5	0.4	0.1	0.0	1.6
SK	3.3	2.4	1.0	0.5	0.2	0.0	0.0	0.0	0.8
AB	3.5	1.1	0.2	0.3	0.2	0.1	0.1	0.0	0.4
BC	4.4	1.2	0.7	0.2	0.1	0.0	0.1	0.0	0.6
ALL	5.1	2.2	1.0	0.3	0.2	0.1	0.1	0.0	0.8

4.2.4 Distribution of Indirect Transfers

Having examined at the distribution of health, education and social service benefits derived from CHST cash transfers and Equalization payments, it is now possible to assess the overall distribution of indirect transfers across income groups and provinces. (See Table 19.)

The distribution of the total indirect transfers financed by CHST cash transfers and Equalization entitlements is again quite progressive in that the transfer share is larger in lower-income families. Indeed, the average indirect federal transfer rate ranges from 17.2 per cent for lower-income families to 1.6 per cent for higher-income families. This result arises mainly because 1) the bulk of federal indirect transfers is allocated to health and 2) seniors, who are the most intensive consumers of health care services, are found disproportionately in lower-income families.

Table 19: ***Federal Cash Transfers for Health, Education and Social Services as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	39.3	21.6	17.6	11.0	9.6	8.4	8.3	7.4	16.9
PE	31.3	17.5	15.1	11.3	10.1	11.1	7.1	4.9	13.5
NS	31.2	18.9	12.5	9.9	8.5	8.5	8.8	5.1	13.0
NB	31.5	16.4	13.8	10.5	9.4	8.1	8.8	4.3	12.8
QC	20.6	11.5	8.2	5.9	6.4	5.2	4.6	3.1	7.8
ON	10.4	5.6	3.9	2.7	2.1	1.8	1.6	0.9	2.6
MN	27.8	15.7	10.5	8.8	7.1	5.9	6.1	4.3	9.6
SK	15.3	8.3	5.3	3.9	3.7	2.9	2.7	2.1	5.0
AB	10.2	5.0	3.2	2.7	3.0	2.2	2.1	1.1	2.7
BC	13.4	5.9	4.2	3.1	3.0	2.5	2.1	1.5	3.8
ALL	17.2	8.8	6.1	4.5	4.2	3.4	3.0	1.6	4.9

When looking at the distribution of intergovernmental transfers across provinces for given income groups, considerable variations are observed. For families in the less than $20,000 income group residing in provinces receiving Equalization payments, rates range from 15.3 per cent for Saskatchewan to 39.3 per cent for Newfoundland, while those families residing in Ontario, Alberta and British Columbia observe indirect transfer rates varying between 10.2 per cent and 13.4 per cent. The dispersion narrows considerably in the higher income groups.

The pattern across provinces follows relative provincial income levels. However, the impact of including Equalization entitlements tends to inflate the size of federal indirect transfers (relative to income) for the Equalization receiving provinces. Ontario, Alberta and British Columbia (non-Equalization receiving provinces) have low average indirect transfer rates ranging from 2.6 per cent to 3.8 per cent. In all other provinces, this rate varies between 5.0 per cent and 16.9 per cent.

These results differ somewhat from those obtained by Poschmann (see Table 20). First, although the trend remains the same, Poschmann's benefit rates are somewhat smaller through the lower income groups and larger through the higher income groups. In general, he observed a progressive distribution across all income groups, with families in the lower-income groups receiving indirect transfers on average equalling 15.9 per cent of their post-tax, post-transfer income, while the highest-income families received indirect transfers equalling 3.3 per cent.

Table 20: ***Federal Cash Transfers for Health, Education and Social Services as a Percentage of Post-Tax, Post-Transfer Income, 1997 (Poschmann)***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	27.1	19.1	18.3	16.2	21.0	22.7	28.5	35.7	23.0
PE	21.6	15.3	13.1	13.6	13.5	13.8	14.5	16.9	15.3
NS	20.2	14.4	12.9	12.2	13.0	12.9	15.8	18.1	15.0
NB	20.8	13.5	12.0	12.3	11.6	12.7	15.3	18.3	14.8
QC	20.3	10.1	7.5	5.9	6.0	6.3	7.0	8.2	9.1
ON	11.1	6.9	3.5	2.7	1.7	1.5	1.3	0.9	2.8
MN	17.7	11.2	9.7	8.6	8.2	9.2	10.8	12.6	11.0
SK	15.3	7.7	5.3	4.0	4.1	4.0	4.5	4.4	6.1
AB	11.2	5.6	2.9	1.9	1.6	1.4	1.2	1.0	2.9
BC	15.9	5.4	3.5	2.2	2.0	1.3	1.4	0.8	3.1
ALL	15.9	8.3	5.5	4.4	3.9	3.7	3.8	3.3	5.6

Second, Poschmann found smaller variations in indirect transfer rates across provinces for lower income groups as well as considerably greater variations in indirect transfer rates for higher income groups. For example, for families with incomes of less than $20,000 residing in provinces receiving Equalization payments, Poschmann found that indirect transfer rates ranged from 15.3 per cent for Saskatchewan to 27.1 per cent for Newfoundland. On the other hand, he found that families in the highest income groups

residing in Equalization receiving provinces observed indirect transfer rates that ranged from 4.4 per cent for Saskatchewan to 35.7 per cent for Newfoundland.

It is also interesting to note that in Poschmann's study, for Equalization receiving provinces, the distribution of indirect transfers is progressive over the lower-income range, but ceases being progressive and becomes regressive over the higher income range. This can mainly be attributed to the fact that he treats Equalization as a tax transfer, which tends to benefit higher-income families more than lower-income families. However, the distribution of indirect transfers is progressive over all income groups for non-Equalization receiving provinces.

Across provinces, these results follow those obtained by Poschmann as the indirect transfer rates he observed also follow provincial income levels, with average federal indirect transfer rates ranging from 2.8 per cent to 3.1 per cent for non-Equalization receiving provinces, while all other provinces observed indirect transfer rates ranging from 6.1 per cent to 23 per cent.

4.2.5 Equal Per Capita Allocation Across Income Groups

A second approach that can be used to allocate federal indirect transfers to families is to distribute a province's CHST and Equalization transfers on an equal per capita basis. Table 21 sets out the results.

Table 21: ***Federal Cash Transfers for Health, Education and Social Services as a Percentage of Post-Tax, Post-Transfer Income, Using an "Equal Per Capita" Imputation, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	27.0	21.4	20.0	16.2	14.8	13.3	11.2	8.6	16.9
PE	20.3	16.6	16.7	14.3	13.7	11.9	9.0	7.3	13.5
NS	21.9	17.0	14.5	13.0	12.2	11.7	9.5	6.5	13.0
NB	22.3	16.8	15.5	13.5	12.4	10.4	9.6	5.5	12.8
QC	13.6	10.3	9.2	8.2	7.7	7.1	6.1	3.8	7.8
ON	5.7	4.2	3.7	3.2	3.0	2.6	2.3	1.3	2.6
MN	17.3	12.6	12.1	11.0	9.7	8.9	8.2	5.4	9.6
SK	9.2	6.9	6.3	5.6	5.2	4.4	3.8	2.3	5.0
AB	6.3	4.1	3.7	3.4	3.1	2.8	2.5	1.4	2.7
BC	8.6	5.5	4.6	4.0	3.9	3.5	3.0	1.8	3.7
ALL	10.8	7.6	6.7	5.9	5.4	4.7	3.9	2.1	4.9

In this scenario, the distribution of federal indirect transfers remains progressive. However, the degree of progressivity is reduced somewhat, since, by distributing health, education and social service transfers equally across a province's population, these transfers are no longer attributed to particular types of families, and as such, the fact that lower-income families are predominant recipients of these transfers is ignored. Instead, a

progressive distribution exists because transfers make up a larger portion of income for lower-income families.

However, as mentioned by Poschmann, the progressivity of our results may be somewhat overstated. First, although seniors are disproportionately found in lower-income groups based on their current income, they may in fact be drawing down savings made in earlier years. As such, this post-tax, post-transfer income base may not truly reflect their lifetime well being. Second, this study does not capture the benefits of post-secondary education that accrue to higher-income individuals after they graduate. Indeed, although these individuals may no longer be students, they still enjoy a higher standing of living due to their extended years of education.

5. The Distribution of Net Transfers

Having examined the allocation of federal taxes and transfers, we now have the components needed to calculate the federal net transfer for each family income group. The federal net transfer represents the difference between the amount a family receives from the federal government in terms of both direct and indirect (i.e., social spending funded through federal intergovernmental transfers) transfers to persons and the amount paid in federal taxes. A positive (negative) net balance indicates that a family received more (less) in federal transfers than it paid in taxes. Table 22 sets out the results.

On average, families contribute to the federal government 13.3 per cent of their post-tax, post-transfer income, resulting in a net tax bill of about $4,773. (See Appendix.) To a large extent, this net tax bill reflects the federal government's strong budgetary position. In 2000, the federal government posted a budgetary surplus of $16.7 billion, indicating that overall federal revenues exceeded federal expenditures[12].

Table 22: ***Federal Net Transfers as a Percentage of Post-Tax, Post-Transfer Income, 2000***

	Census Family Total Income								
	≤ 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	73.1	35.8	24.7	7.2	-1.1	-9.3	-15.4	-24.4	15.2
PE	66.3	27.3	19.7	4.1	-2.9	-6.1	-16.7	-26.3	7.8
NS	59.5	23.0	4.7	-4.6	-10.7	-13.4	-15.9	-26.0	2.0
NB	63.1	25.7	10.6	0.6	-7.3	-14.1	-15.8	-30.8	3.2
QC	50.7	15.2	-0.2	-10.4	-13.1	-18.6	-23.0	-32.1	-6.7
ON	37.3	8.2	-4.6	-15.0	-19.0	-22.7	-25.9	-33.8	-18.7
MN	56.8	16.9	3.1	-5.4	-12.9	-17.5	-19.3	-27.1	-5.5
SK	52.4	12.6	-1.7	-11.8	-16.0	-21.0	-24.0	-32.5	-9.3
AB	30.9	5.6	-5.9	-16.7	-21.7	-23.7	-25.5	-32.4	-19.6
BC	39.0	7.4	-3.0	-14.6	-18.3	-20.9	-25.3	-32.4	-14.3
ALL	45.2	12.0	-1.6	-12.1	-16.5	-20.7	-24.3	-32.8	-13.3

[12] While the federal budgetary position in a given year tends to influence strongly the sign of the net balances, their relative positions can be used to make comparisons across time.

The distribution of net federal transfers overall is progressive, with families in the lowest income group receiving net transfers amounting to 45.2 per cent of their post-tax, post-transfer income on average while families in the highest income group contribute, on average, 32.8 per cent of their post-tax, post-transfer income to the federal government.

When looking at the distribution of net transfers across income groups, the first interesting inference that can be made is that for lower-income groups, there are considerable variations in the net federal transfers across provinces. For example, families with incomes of $30,000 to $40,000 in Quebec, Ontario, Saskatchewan, Alberta and British Columbia face net contribution rates ranging from 0.2 per cent to 5.9 per cent, while families in the Atlantic provinces and Manitoba are net recipients, with rates ranging from 3.1 per cent to 24.7 per cent. As well, families in Alberta with incomes between $50,000 and $60,000 have a net contribution rate of 21.7 per cent, almost seventeen times more than families in Newfoundland belonging to the same income group. Also, census families in Alberta with incomes of less than $20,000 receive net transfers equalling 30.9 percent of their post-tax, post-transfer income while census families in Newfoundland with incomes between $20,000 and $30,000 receive benefits amounting to 35.8 per cent of their post-tax, post-transfer income. Much of these variations can be attributed to two factors. The first is the demographic profile of each province. For example, for a province characterized by an older population, such as Newfoundland, we would expect it to receive a larger share of federal direct transfers through OAS/GIS/SPA than Alberta, which has a population that is on average younger. Furthermore, we would expect health spending in Newfoundland to be higher than health spending in Alberta since seniors are the most intensive consumers of health care services. As such, since seniors are found disproportionately in lower-income families, and since OAS/GIS/SPA and health benefits make up the bulk of federal direct and indirect transfers, we would expect some variation to exist among these lower-income groups. The second factor that could explain the variations observed among the lower-income families is the inclusion of Equalization entitlements. We must not forget that including Equalization entitlements tends to inflate the size of federal indirect transfers (relative to income) for the Equalization receiving provinces and as such, we would expect Ontario, Alberta and British Columbia (non-Equalization receiving provinces) to have lower indirect transfer rates than the remaining provinces.

However, more interestingly, in higher income groups, the dispersion of net transfer rates narrows considerably. Indeed, the families with incomes of $75,000 and above have broadly similar net federal transfer rates across provinces. For example, for families with incomes of $100,000 and above, net contribution rates range from 24.4 per cent for Newfoundland to 33.8 per cent for Ontario.

This latter result stands in contrast to Poschmann's findings (see Table 23); he found that considerable variations in federal net transfer rates existed even among higher-income families, with families in the $75,000 to $100,000 income group facing federal net transfer rates ranging from 0.1 per cent for Newfoundland to –31.4 per cent for Alberta. The discrepancy between this study and Poschmann's results is largely attributable to the difference in the treatment of indirect transfers, mainly Equalization entitlements,

demonstrating that the results are sensitive to changes in the underlying assumptions. By treating Equalization as a block transfer rather than a tax transfer (a more appropriate treatment given that Equalization is a federal cash payment to the provinces) this study has reduced the regressivity in the distribution of indirect transfers that was experienced among the higher-income families of Equalization receiving provinces in Poschmann's study. As such, this analysis cannot lend strong support to Poschmann's conclusion that the federal government collects taxes from low-income Canadians in high-income provinces in part to fund transfers to higher-income residents in poorer provinces.

Table 23: ***Federal Net Transfers as a Percentage of Post-Tax, Post-Transfer Income, 1997 (Poschmann)***

	Census Family Total Income								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	≥100,001	All
NF	70.8	48.5	28.0	15.7	8.4	1.1	0.1	1.2	25.4
PE	61.2	36.8	19.8	7.1	-2.3	-8.9	-13.0	-12.8	10.2
NS	52.8	28.6	10.8	-1.1	-6.5	-10.4	-13.6	-18.0	6.6
NB	54.4	29.6	11.6	-1.9	-6.8	-11.3	-16.0	-14.8	6.2
QC	48.4	23.0	3.2	-7.6	-13.5	-17.7	-21.8	-27.0	-2.2
ON	36.2	18.8	-2.8	-12.3	-21.2	-24.9	-29.7	-36.9	-16.1
MN	43.8	22.4	2.1	-8.0	-12.1	-16.3	-20.8	-25.4	-4.9
SK	44.9	16.0	-1.5	-14.1	-18.2	-22.1	-25.6	-34.8	-9.0
AB	28.8	11.3	-9.0	-18.1	-21.9	-27.3	-31.4	-35.8	-17.6
BC	44.1	8.4	-5.2	-16.4	-21.4	-23.5	-29.9	-35.6	-15.9
ALL	42.8	19.1	-0.5	-10.9	-17.9	-21.9	-27.0	-33.7	-10.7

6. Conclusion

In order to reduce regional disparities and to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation, the federal government provides transfers to the provinces. However, given that spending priorities vary from province to province and that each province has unique demographic characteristics, the distribution of these transfers across families and provinces is difficult to discern precisely.

This paper revisits the question of how federal taxes and transfers are distributed across provinces and across income groups, a topic of an earlier study, "Where the Money Goes: The Distribution of Taxes and Benefits in Canada" by Finn Poschmann. In doing so, this analysis has improved upon the treatment of intergovernmental transfers. Indeed, rather than using the historical share of EPF and CAP to allocate federal CHST cash transfers and rather than treating Equalization as a tax point transfer, federal CHST and Equalization cash transfers are treated as in-kind transfers to families that are allocated to health, education and social services according to provincial spending patterns, an approach currently adopted by federal and provincial governments to determine government support for health care.

The key results are as follows. First, the federal total tax incidence is found to be progressive for all provinces, with some variation across provinces for given income

groups. This is mainly because of the influence of the progressive PIT. EI contributions are progressive up to an income of $50,000 and regressive thereafter and indirect taxes follow a regressive distribution.

Second, the relative size of federal direct transfers to persons varies significantly from province to province and across family income groups, a variation that is considerably greater than that observed for federal taxes. Furthermore, the impact of these transfers appears to be quite progressive, with average transfer rates declining sharply across income groups. Overall, these results are in line with those obtained in the previous study.

However, differences emerge once we analyse the distributional profile of indirect (intergovernmental) transfers across provinces. In this study, the distribution of total indirect transfers financed by CHST cash transfers and Equalization entitlements is progressive, with considerable variation across provinces for lower-income families and little variation across provinces for higher-income families. This stands in contrast to Poschmann's results. For Equalization receiving provinces, Poschmann observes a distribution of indirect transfers that is progressive across lower income groups but regressive across higher-income groups, with smaller variations across provinces for lower-income groups and significant variations among higher-income groups. This is further reflected in his net transfer rates that vary considerably across provinces for all given income groups. The results of this study, on the other hand, show little variation in federal net transfers among provinces for higher-income groups and as such, Poschmann's conclusion that low-income Canadians in high-income provinces are funding transfers to higher-income residents of low-income provinces cannot be supported.

Appendix

Table A1: *Federal Net Transfers per family, 2000*

	Census Family Total Income, Post-Tax, Post-Transfer								
	< 20,000	$20,001-30,000	$30,001-40,000	$40,001-50,000	$50,001-60,000	$60,001-75,000	$75,001-100,000	>100,001	All
	($ Per Census Family)								
NF	11,095	8,216	7,637	2,528	-454	-4,539	-9,343	-20,121	4,652
PE	8,614	5,919	5,807	1,415	-1,187	-3,154	-10,368	-22,213	2,438
NS	7,911	5,255	1,335	-1,575	-4,332	-6,582	-9,914	-24,750	619
NB	8,244	5,854	3,063	197	-3,002	-6,997	-9,867	-32,153	1,006
QC	5,990	3,174	-67	-3,389	-5,124	-8,524	-13,190	-30,900	-2,090
ON	3,991	1,667	-1,241	-4,955	-7,604	-10,981	-15,682	-37,847	-7,476
MN	7,509	3,696	869	-1,857	-5,321	-8,455	-11,815	-25,950	-1,956
SK	5,699	2,532	-436	-3,857	-6,248	-9,949	-14,187	-33,646	-2,946
AB	3,215	1,125	-1,603	-5,564	-8,628	-11,509	-15,845	-35,891	-7,874
BC	3,968	1,475	-824	-4,812	-7,272	-9,982	-15,281	-34,038	-4,839
ALL	5,089	2,472	-432	-4,014	-6,566	-9,896	-14,586	-35,091	-4,773

References

Canadian Institute of Health Information, *National Health Expenditure Database, National Health Expenditure Trends 1975-2002,* 2002

Department of Finance, Fiscal Policy Division, *Federal and Provincial/Territorial Public Accounts, 1991-92 To 2001-2002*, November 2002

Poschmann, F., "Where the Money Goes: The Distribution of Taxes and Benefits in Canada", *C.D. Howe Institute, Commentary 105,* Ottawa, April 1998

Statistics Canada, *Provincial Economic Accounts, Annual Estimates 1981-2001,* Catalogue no. 13-213-PPB, November 2002

Vermaeten, F, Gillepsie W. I., and Vermaeten A., "Tax Incidence in Canada", *Canadian Tax Journal*, vol. 42, no. 2, 1994